Validation of

*Great Rally on the back of electronic turtles*

- computer game for children MRE

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Computer multi-player board game for children of 10-14 years of age; up to 10 players

- **Concept of the game** based on IMAS 12.10 Mine/ERW Risk Education and on guidelines defined by psychologists

- **Implementation of the game**: client-server architecture, iPad mini 15GB as a gamer’s device
STARTING-POINT

• The game is destined for use on territories with permanent mine risk; is to mold safe children’s behavior.
• Gaming is to be conducted in school-like conditions, under supervision of an instructor (teacher).
• Defined didactic objectives of the game limit its “by plot” attractiveness, so sporting type competition is to attract children.
• The game is culturally universal, appealing to common characteristic of children of human species.
• Knowledge of risks and safe behavior is relayed at a briefing, before gaming; the game teaches how to use this knowledge and serves its consolidation.
General rules of behavior in the face of danger of mines/ERW:

Be careful and prudent

Don’t enter

Don’t touch
Rules of the game

• Rally on the backs of electronic turtles (pawns) through a terrain with mine risks.
• The board of the game depicts a map with a net of paths connecting start point with finish line of the rally.
• The first turtle on a finish line is a winner.
• Entering the prohibited area or stepping on the mine is prohibited and results in disqualification of a player.
Rules of the game – cont.

• Turtles have to be feed on “grains of movement”; one grain lets the turtle to make one step on the path.
• At the beginning of the game a quantity of grains is not sufficient to achieve a finish line.
• Replenishment is accomplished in two ways:
  - as a result of players’ visits in Information Outlets, playing role of filling stations, and correct answers to questions of the quizzes on safe behavior in the face of mine risk,
  - by correct reporting about dangerous objects on the board.
Strategy of the game

- to obtain as many as possible grains in Information Outlets (and achieve a proficiency of a Guide),
- to obtain as many as possible grains while reporting about dangerous objects on the board (and achieve a proficiency of a Observer),
- at the same time: to be the fastest.
Sample pictures
Gamers represented by pawns
Sample pictures (2)
Board – map with a net of paths
Sample pictures (3)
Dangerous objects on the board
Sample pictures (4)
Objects on the board – dangerous or safe
Sample screen

Questions for obtaining proficiency of GUIDE

At the top of screen counters of time, grains, and score points for proficiencies are located
Examples of diplomas

FIRST PLACE GOLD MEDAL

PROFICIENCY OF OBSERVER
VALIDATION METHOD

BRIEFING part I*
MR POLL*** „before playing”
BRIEFING part II**
3 GAMEPLAYS
MR POLL*** „after playing”
GAME POLL****

ANALYSIS OF POLLS
DISCUSSION

* on MR knowledge
** on the game rules
*** on MR knowledge
**** on the game itself

Ethical issues:
Informed Consent Form signed by parents/carers
CONFIGURATION OF THE GAME DURING VALIDATIONS

- iPad #1
- iPad #2
- iPad #8
- SERVER PC
- INTERNET
- PLAYER
- PLAYER
- PLAYER
- INSTRUCTOR
Pre-validation in Poland

Elementary school in Warszawa-Wesoła with 8 pupils 10-12 years old, both boys and girls, on June 2015.
Validation in Croatia

Two elementary schools:
- in Moscenica, with 8 pupils 13-14 years old,
- in Lekenik, with 10 pupils 10-12 years old,
both boys and girls in each school (on October 2015).
Results of the validation

• children psychologist’s opinion: “tests have showed, both in quality examination and behaviors analysis, an essential efficiency of prophylaxis of dangerous behaviors on the terrains where mines are located”,

• detailed results obtained in the polls, both of the pretest and final tests, confirm this opinion,

• in all tests an increase of children’s MRE knowledge caused by playing the game has been observed,

• players were able to understand and apply the game rules and were interested in playing the game,

• → it has been proved that general concept of the game is appropriate for the children from 10 to 14 years old.
Selected results from the polls
taken by the players and the instructors

- easy to understand and absorb the game’s rules - 87.5%
- easy to apply these rules playing the game - 75%
- reaching the finish line is easy - 75%
- the game is interesting – 87.5%
- the game increased very much the knowledge on dangers – 62.5%
- difficulties in the game - to act by touching screen with finger - 25%
- positive assessment of the game’s graphics - 87.5%
- positive assessment of the game’s sound by 50%.
Additional information on the tests

• the game was easy to play, interesting, and brought good didactic results,
• time of playing was one class hour (ca. 45 min.), which ensured keeping attention and receptivity by children,
• the tests lasted ca. 2 hours 30 min.
Additional information on the game

- easy to reconfiguration and scalability due to the generation of software tools for creation of the main elements of the game,
- ease to configuration (parameters: initial number of grains, rewards for proficiencies, required limits for proficiencies),
- easy localisation (at the moment game available in English, Croatian and Polish),
- available manuals (including presentations) for instructors and pupils both on mine risk dangers and on rules of the game,
- games’s server running under Windows, Linux or iOS,
- iPad/iOS or laptop/Win as gamer’s device,
- communication between sever and clients both via Internet and in LAN (mobile version of the game),
- improvements of the game underway:
  - better quality of pictures and photos,
  - new functionalities: reporting of the errors and additional checking of knowledge after the finishing of the game.
Conclusion

Authors are looking for partners in order to disseminate the game; game licence will be accessible on non-discriminatory basis.

Access to the game for a single player:

http://tnij.org/demomre

Video on the game at:

https://youtu.be/GRcpXNJB63Y
Thank you for your attention

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